

## Remarks

The Office Action rejects claims 70-75, 78-82, and 84 under 35 USC § 112, first paragraph, as failing to comply with the written description requirement. On page 4 of the Office Action, the Action states "Applicant argues that . . . the material of Baier and Milikovsky is fabricated from a non-permeable material." The Applicant submits it is clear that Milikovsky's material is non-permeable. The Applicant did not argue or imply that Baier's material was non-permeable. The Office Action contends that the addition of the limitation related to the permeability of the foam material was not described in the specification in a way as to reasonably convey to one of ordinary skill in the art that the inventor, at the time of the application, had possession of the claimed invention. The Applicant respectfully traverses the rejection. The specification describes the foam bodied muntin body as one that carries desiccant in order to add a drying capacity to the muntin grid. Desiccant must be exposed to the moisture vapor to function. As such, the foam that carries the desiccant is necessarily permeable to at least moisture vapor. Nevertheless, the Applicant has amended independent claims 70 and 78 in a manner that obviates the current rejection under section 112, first paragraph.

The final office action rejects claims 62-75, 78-82, and 84-93 as being obvious under § 103(a) in view of US Patent 5,345,743 to Baier in view of US Patent 5,732,517 to Milikovsky. The Applicant respectfully traverses the rejections.

To establish a prima facie case of obviousness, three basic criteria must be met. First, there must be some suggestions or motivation, either in the references themselves or in the knowledge generally available to one of ordinary skill in the art, to modify the reference or to combine reference teachings. Second, there must be a reasonable expectation of success. Finally, the prior art reference (or references when combined) must teach or suggest all the claim limitations. The teaching or suggestions to make the claimed combination and the reasonable expectation of success must both be found in the prior art, and not based on applicant's disclosure. M.P.E.P. § 2142. The Applicant submits these criteria are not met and that a prima facie case of obviousness has not been established.

a. Milikovsky does not disclose the elements represented in the office action

The Office Action admits that the primary reference, Baier, on which Applicant's invention improves, does not disclose the body of the muntin bar defining at least one insulating cavity. The Office Action cites Milikovsky as disclosing a spacer having continuous insulating cavities of a specific dimension and relationship to one another despite no such disclosure of these elements in the Milikovsky reference itself. The Applicant respectfully submits the interpretation of Milikovsky set forth in the office action is not supported by any material within the four corners of the Milikovsky document. Milikovsky discloses an insulating glazing unit and a pair of spacers. Milikovsky does not, however, disclose, teach, or suggest anything about the construction of the spacer body except that the spacer provides a hermetic seal for the glazing unit. Nothing in Milikovsky discloses (i) a plurality of insulating cavities, (ii) the relative cross sections of the different portions of the spacer, (iii) the continuity of what the Office Action refers to as insulating cavities in the longitudinal direction. The Applicant respectfully traverses the application of Milikovsky in this manner.

Nothing in Milikovsky discloses or teaches the use of cavities in the body of the spacer and certainly does not disclose or teach anything about the orientation of cavities within the spacer. The Applicant submits that an interpretation of unlabeled drawings and unexplained patent drawings cannot be used to properly support a rejection. MPEP § 2125 provides that drawings may be used as prior art only when the picture shows all of the claimed structural features and how they are put together. The drawings must be evaluated for what the drawings reasonably disclose and suggest to one of ordinary skill in the art. Id. Further, patent drawings are not provided in any scale that may be used to support a rejection. The present claims specifically recite relative cross sectional areas and relative spacings as important features of the invention. No such relative sizes or cross sectional areas are disclosed in Milikovsky. The Milikovsky disclosure thus does not support the rejection.

The drawings of Milikovsky reasonably disclose that the Milikovsky spacers are not intended to be a unitary material when viewed in cross section. The conclusion set forth in the office action that the spacers define openings is a conclusion drawn only

with impermissible hindsight drawn from the teachings of Applicant's specification and drawings. The Examiner admits on page 6 of the Office Action that the Examiner has referred to Applicant's drawings when interpreting the Milikovsky drawings. Such a reference is impermissible hindsight. On page 6 of the Office Action, the Examiner asks:

**represents cavities. This is not persuasive. In particular, it is first noted that the illustration of Milikovsky is the same as that used by applicant. Accordingly, how is it that the illustration represents "cavities" when used by applicant, but the same illustration in a prior art reference does not represent "cavities"?**

The Applicant's answer is that Applicant's drawings are specifically explained with a written description and reference numerals that provide the disclosure of the continuity of the insulating chambers. Without the written description, one cannot determine how deep Applicant's cavities are – whether they are elongated, shallow, or continuous. Milikovsky has no reference numerals and no written description. The identity of the ovals within the spacers is thus left undisclosed. Such ovals may be used to represent a variety of elements – but one cannot say what Milikovsky intended because there is no disclosure in the Milikovsky reference. The Milikovsky drawings thus only disclose that the Milikovsky spacers, when viewed in cross section, are not unitary. The reference discloses nothing about the identity of the ovals that represent a second material or element within the Milikovsky spacers.

On pages 6 and 7 of the Office Action, the Examiner also asks a series of questions as follows:

Second, Milikovsky clearly identifies this feature as something that was part of the “state of the art” at least as of 1996 when the application was filed. Being that this feature was part of the state of the art” years before applicant’s instant invention, it certainly is not unreasonable to expect that those of ordinary skill in the art would know what the feature is and why such feature would be present. Applicant makes the allegation that “(n)othing in Milikovsky discloses or teaches the use of cavities in the body of the spacer”, e.g., see page 9. No basis for this statement is set forth and the figures of Milikovsky indicate otherwise since cavities are shown in the body of the spacers. Nevertheless, applicant appears to be seeking to present a position that questions the accuracy of the examiner’s stated interpretation of the factual technical information of the “state of the art” acknowledged by Milikovsky. Accordingly, in accordance with 37 CFR 1.105(a)(1)(viii), applicant is required to submit information known to him concerning what the

state of the art was and what the illustrated features (identified as cavities by the examiner) are, if not in fact cavities.

First, the Applicant interprets the use of the term “feature” in this portion of the Office Action to refer to the four ovals depicted in the spacer in Milikovsky’s drawings. Nothing discloses that these ovals are “cavities” as concluded in the Office Action. The Office Action concludes that “it certainly is not unreasonable to expect that those of ordinary skill in the art would know what the feature is and why such feature would be present.” The Applicant submits it is entirely unreasonable to expect one of ordinary skill in the art to know what the “feature” is because Milikovsky did nothing to explain or describe the feature. One simply cannot determine with certainty what the Milikovsky “feature” is because Milikovsky provides nothing in the form of a written description or reference numeral to assist one in interpreting the drawing. A variety of explanations are possible, but presenting one of them is speculation. In order to support a rejection under section 103, the cited combination of references must disclose the elements of the rejected claim. If one must speculate about the identity of a feature in a reference, then the reference does not disclose the feature for the purpose of supporting a rejection.

As set forth in the portion of the Office Action reproduced above, the Examiner has required the Applicant to submit information known to him concerning the state of the art and what the illustrated “features” are if they are not cavities. As to the second

portion of this request, the identity of what the “features” are is unknown to the Applicant. The Applicant would be speculating because Milikovsky has no disclosure. Applicant submits Milikovsky’s drawings simply disclose a spacer having at least two different materials when viewed in cross section.

As to a description of the state of the art, the Applicant cannot determine the time period requested by the Examiner. Window spacers have been known for over one hundred years. By the time Milikovsky was filed, numerous spacer configurations were known. U-shaped spacers and hollow spacers are known and can be found in any of a variety of references. Further, solid spacers with embedded longitudinal shims are known. See, for example, the different spacer configurations shown in US 4,994,309 (of record). Could Milikovsky use shims in its spacers for strength? The Applicant submits that one of ordinary skill in the art cannot make such a determination because Milikovsky lacks the necessary disclosure. Other spacer configurations include multiple spacer elements functioning together to define the spacer. See, for example, US Patents 5,658,645 and 5,773,135, of record. For example, the German reference (DE 2824396) submitted herein in the Supplemental Information Disclosure Statement discloses different spacer configurations having different elements. A review of these prior art spacers reveal possibilities for the Milikovsky “feature” other than the continuous cavities recited in the claims.

Further, the Applicant submits the conclusion of “longitudinal and continuous” is not a reasonable interpretation of the Milikovsky teachings. How can one determine the depth of the Milikovsky features? The Applicant thus submits that the interpretation of the Milikovsky reference set forth in the office action does not support a prima facie case of obviousness and the rejections should be withdrawn.

The Applicant notes that claim 62 and 78 recite that the cross sectional area of the body material (or foam) is larger than the cross sectional area of the insulating cavity. As explained in the specification, this relationship is important to the structural integrity of the muntin bar. This relationship is not taught or suggested by the prior art which sought to maximize the size of the cavity. The combination of Baier and

Milikovsky does not disclose this relationship. In addition to having no reason to look to Milikovsky, there is nothing in Milikovsky that discloses the relative sizes of its elements.

Claims 67, 75, 82, 88, and 91 define further dimensional relationships that are not disclosed or suggested by the prior art.

**b. No Motivation or Suggestion in the References**

There is no reason why one of ordinary skill in the art would combine the teachings of a spacer disclosure with a muntin disclosure. Spacers and muntin bars are independent and distinct elements in the insulating glass industry. In the Office Action dated June 2, 2004, in this patent application, the official position of the United States Patent and Trademark Office established that the muntin bar claims of the present application are patentably distinct from the spacer claims of the application. The Applicant notes that the official position of the United States Patent and Trademark Office is that muntins and spacers are independently patentable as set forth in the office action dated June 2, 2004, the pertinent portion reproduced below:

**I. The inventions are distinct, each from the other because of the following reasons:**

Restriction to one of the following inventions is required under 35 U.S.C. 121:

- I. Claims 1-21, 29, drawn to muntin bar element, classified in class 52, subclass 455.**
- II. Claims 22-28, drawn to apparatus of a spacer, classified in class 52, subclass 786.13.**

Inventions I and II are unrelated. Inventions are unrelated if it can be shown that they are not disclosed as capable of use together and they have different modes of operation, different functions, or different effects (MPEP § 806.04, MPEP § 808.01). In the instant case the different inventions used as spacer between glass panes.

Because these inventions are distinct for the reasons given above and have acquired a separate status in the art as shown by their different classification, restriction for examination purposes as indicated is proper.

As described in the June 2, 2004, Office Action, the invention groups are “unrelated” and “have acquired a separate status in the art.” Id. The office action specifically

concludes that the groups (muntins and spacers) are “distinct.” *Id.* MPEP § 802.01 states “Related inventions are distinct if the inventions as claimed are not connected in at least one of design, operation, or effect (e.g., can be made by, or used in, a materially different process) and wherein at least one invention is PATENTABLE (novel and nonobvious) OVER THE OTHER (though they may each be unpatentable over the prior art). (underlining added) The Applicant thus submits that the June 2, 2004, Office Action makes clear that muntin inventions are distinct from – and thus PATENTABLE over – spacer inventions. As such, the claimed muntin bar configurations are distinct from – and thus patentable over – the Milikovsky spacer disclosures. Further, the Applicant submits that one of ordinary skill in the art would not seek to combine features of unrelated inventions that have acquired a separate status in the art. One of ordinary skill in the art would thus not look to a spacer disclosure (Milikovsky) to modify the muntin disclosure of Baier.

In addition, the Applicant contends the Office Action has not established the requisite suggestion or motivation to combine. Page 4 of the Office Action identifies the suggestion for making the cited combination as “any of the reasons known in the art.” MPEP § 2143 requires: “The teaching or suggestion to make the claimed combination and the reasonable expectation of success must both be found in the prior art, not in applicant's disclosure.” *In re Vaeck*, 947 F.2d 488, 20 USPQ2d 1438 (Fed. Cir. 1991). The Office Action states that one may wish to increase the resiliency of the muntin bar or increase the effectiveness of the thermal bridge. The Office Action has not identified where in the prior art these reasons are found. It is not clear how adding the cavities of the claims would increase the resiliency (the power or ability to return to the original form, position, etc., after being bent, compressed, or stretched; elasticity) of the muntin bar. Adding cavities may reduce the resiliency in some cases. Further, one does not want to increase the effectiveness of the thermal bridge. Increasing the effectiveness would allow more thermal energy to be transferred between the glass sheets. The Applicant thus submits the Office Action has not identified the requisite suggestion or motivation for a prima facie case of obviousness.

In view of the forgoing, the Applicant submits the spacer teachings of Milikovsky cannot be properly combined with the muntin bar teachings of Baier under §103(a).

Spacers and muntin bars are independent and distinct inventions serving different purposes and functions in an insulating glass unit. The Applicant thus submits there is no suggestion or motivation in the references to combine the teachings. Further, there is nothing in the cited references that establishes a reasonable expectation of success. A *prima facie* case of obviousness thus cannot be established and the claims are thus patentable over the cited combination.

In view of the foregoing, the Applicant respectfully requests reconsideration of the claims and most earnestly solicits the issuance of a formal Notice of Allowance for the claims.

Please call the undersigned attorney if any issues remain after this amendment.



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